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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,906	02/20/2004	Natan E. Parsons	A2-30US1	7197
41664	7590	05/09/2006	EXAMINER	
IVAN DAVID ZITKOVSKY PH.D PC 5 MILITIA DRIVE LEXINGTON, MA 02421			DEVORE, PETER T	
			ART UNIT	PAPER NUMBER
			3751	

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/783,906

Applicant(s)

PARSONS ET AL.

Examiner

Peter T. deVore

Art Unit

3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 23-36 is/are pending in the application.  
     4a) Of the above claim(s) 25-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16, 23, 24 and 28-36 is/are rejected.
- 7) ☒ Claim(s) 10 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/>           Paper No(s)/Mail Date ____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>           Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|--|---|

## DETAILED ACTION

### *Election/Restrictions*

Claims 25-27 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/8/05.

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the removable element, flexible member/hollow tube, spring, and filter must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 23 objected to because of the following informalities: in the last line, "said maintaining water pressure" apparently should be "said water pressure". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12, 30-33, and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 12 is directed to a removable element positioned to retain the button in the lower position when assembling the top cover. However, this feature is not shown in the drawings and the specification does not make it clear how the flexible tube and

spring are intended to function. If the removable element retains the button in position while assembling the top cover, it is unclear how the element would be removed when the top cover is in place. Such an element would apparently continuously press the button, never allowing the diaphragm to close the valved passage.

Claims 30-33 and 36 are directed to a flexible tube/spring arrangement between the vent/bleed passage and the pilot chamber cap and having a stationary seal. However, these features are not shown in the drawings and the specification does not make it clear how the flexible tube and spring are intended to function. If the tube communicates the bleed passage with the relief passage as implied in the specification, the pilot chamber would apparently never fill with water and the diaphragm would never close the valved passage.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites "said passage" in line 3. However, it is unclear whether this recitation is intended to refer back to the "centrally located passage" or the "relief passage" of claim 15.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 24, 28, 29(23), 29(24), 34(23), 34(24) are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.P.N. 5125621 (Parsons).

Regarding claim 23, the Parsons reference discloses a an automatic toilet flush valve (Fig. 4) comprising a valve body having an inlet (pipe facing left on Fig. 4) and an outlet (pipe facing down in Fig. 4), a valve assembly which opens and closes water flow from the inlet to the outlet (the unlabelled diaphragm/piston), an actuator 58, an electronic system 110 which provides actuation/drive signals (see Fig. 5 and col. 6, lines 56-66), a pressure cap 68, a pilot chamber 26, a relief passage 96, and a cover 14 which houses the electronic system and is removable while maintaining pressure inside the pressure cap to enable replacement of the electronic system. Regarding claim 28, the cover includes a main cover body 54, a top cover 14, and a front cover (the cover portion that includes sensor window 64). Regarding claim 29(23), the valve assembly is a flexible diaphragm as discussed supra which further has a bleed passage in the diaphragm (see the unlabelled bleed passage in the left side of diaphragm in Fig. 4). Regarding claim 34(23), the actuator is apparently “isolated” in that there are no other elements to its immediate left and right in Fig. 4.

Regarding claim 24, the Parsons reference discloses a an automatic toilet flush valve (Fig. 4) comprising a valve body having an inlet (pipe facing left on Fig. 4) and an

outlet (pipe facing down in Fig. 4), a valve assembly which opens and closes water flow from the inlet to the outlet (the unlabelled diaphragm/piston), an actuator 58, an electronic system 110 which provides actuation/drive signals (see Fig. 5 and col. 6, lines 56-66), a pressure cap 68, a pilot chamber 26, a relief passage 96, a sensor 62 which detects a user and provides control signals (see col. 6, lines 41-55) and a cover (the element which includes the sensor window 64) which houses the electronic system and enables sensitivity adjustment of the sensor without removal of the cover (end cap 14 is removable while keeping the cover in place to provide full access to the control system and sensor, see Fig. 4). Regarding claim 29(24), the valve assembly is a flexible diaphragm as discussed supra which further has a bleed passage in the diaphragm (see the unlabelled bleed passage in the left side of diaphragm in Fig. 4). Regarding claim 34(24), the actuator is apparently "isolated" in that there are no other elements to its immediate left and right in Fig. 4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 35(23) and 35(24) are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.P.N. 5125621 (Parsons) in view of U.S.P.N. 4989277 (Tsutsui).

The Parsons reference discloses a flush valve as discussed supra, but does not include a filter in the valve assembly for filtering water passing toward the actuator.

However, the Tsutsui reference discloses a flush valve including a filter 346 in the valve assembly for filtering water passing toward the actuator for reducing contaminants in the system. It would have been obvious to employ a filter for filtering water passing toward the actuator in the valve assembly of the Parsons valve in view of Tsutsui for reducing contaminants in the system.

Claims 1, 3, 13(1), 14(1), 15(1), and 16(1) are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.P.N. 5125621 (Parsons) in view of U.S.P.N. 6000674 (Cheng).

Regarding claim 1, the Parsons reference discloses an automatic toilet flush valve (Fig. 4) comprising a valve body having an inlet (pipe facing left on Fig. 4), an outlet (pipe facing down in Fig. 4), and a valve seat (seat which the unlabelled diaphragm/piston seats onto), a valve member (the unlabelled diaphragm/piston) controlled by water pressure in a pilot chamber 26, an electronic control module having a sensor 62 and a battery 104, an actuator 58, and an external cover comprising parts 14 and 54 which are separately removable, but does not disclose that the control module is removably attachable and includes a housing of plastic. Regarding the removable attachability of the control module, it would have been obvious to make the control module to be removably attachable (if not already) for convenient servicing of the control module. Regarding the control module having a housing, the Cheng reference discloses a similar valve wherein the control module includes a housing for



the sensor A and housing B (see Fig. 1) for convenient packaging of the sensor and battery. It would have been obvious to employ a housing in the control module of the Parsons valve in view of Cheng for convenient packaging of the sensor and battery. Regarding the material of the housing, it would have been obvious to make the module housing of plastic (if not already), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *Re Leshin*, 125 USPQ 416. Regarding claim 3, the cover part 54 can be construed as the main cover body, cover part 14 can be construed as the top cover, and the cover part having sensor window 64 can be construed as the front cover. Regarding claims 13(1) and 14(1), the valve member can reasonably be construed as a diaphragm or a piston. Regarding claim 15(1), the Parsons valve further includes centrally located passage 93, a relief passage 96, and a pressure cap 68. Regarding claim 16(1), the Parsons valve further includes a bypass orifice in the diaphragm (see the unlabelled bypass orifice in the left side of diaphragm in Fig. 4).

Claims 2, 4, 5, 8, 9, 11, 13(2), 14(2), 15(2), and 16(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.P.N. 5125621 (Parsons) in view of U.S.P.N. 6000674 (Cheng) as applied to claim 1 above, and further in view of U.S.P.N. 6499152 (Johnson).

Regarding claim 2, the modified Parsons device is a flush valve as discussed supra, and furthermore cover part 14 can be construed as a "main cover body" which is clearly removable to enable servicing and replacement of the control module while

maintaining water pressure in the pilot chamber, however there is not also a "top cover" removable while maintaining water pressure in the pilot chamber. However, the Johnson reference discloses a similar flush valve which allows for both manual and automatic flushing in case of sensor malfunction, the manual flushing arrangement including a removable escutcheon/"top cover" 266 for enclosing a manual flush button 38 and which is removable while maintaining water pressure in the pilot chamber. It would have been obvious to modify the modified Parsons flush valve to have a manual flushing arrangement including a top cover for enclosing a manual flush button and which is separately removable while maintaining water pressure in the pilot chamber in view of Johnson to allow for manual flushing in case of sensor malfunction. Regarding claim 4, although it is unclear whether the main cover body 14 adds overall rigidity to the external cover, it would have been obvious to design the main cover body to add overall rigidity to the external cover to improve the reliability of the cover. Regarding claim 5, the cover part having sensor window 64 can be construed as the front cover. Regarding claim 8, the top cover of the modified Parsons valve includes a side surface to enable a user to remove the top cover (see Johnson Fig. 16). Regarding claim 9, when the button is reasonably construed as part of the top cover, it is attached via screw 272. Regarding claim 11, the manual flushing arrangement of the modified Parsons flush valve includes a button as discussed supra. Regarding claims 13(2) and 14(2), the valve member can reasonably be construed as a diaphragm or a piston. Regarding claim 15(2), the Parsons valve further includes centrally located passage 93, a relief passage 96, and a pressure cap 72. Regarding claim 16(2), the Parsons valve

further includes a bypass orifice in the diaphragm (see the unlabelled bypass orifice in the left side of diaphragm in Fig. 4).

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.P.N. 5125621 (Parsons) in view of U.S.P.N. 6000674 (Cheng) and U.S.P.N. 6499152 (Johnson) as applied to claim 5 above, and further in view of U.S.P.N. 6243885 (Lopez-Torres).

Regarding claim 6, the modified Parsons device is a flush valve as discussed supra, the sensor window further an "optical window" as light can pass through it, but the sensor is not an optical sensor. Instead, an ultrasonic sensor is disclosed (see Parsons col. 5, lines 15-17). However, the Lopez-Torres reference discloses a similar flush valve including an optical sensor (see col. 4, lines 28-30). It would have been obvious to substitute an optical sensor as taught by Lopez-Torres for the ultrasonic sensor of the modified Parsons device wherein so doing would amount to mere substitution of one type of functionally equivalent sensor for another in the art and the use of any of these sensors would work equally well in the modified Parsons device. Regarding claim 7, the sensor is accessible for adjustment via removal of cover part 14, so doing having no affect on the optical window.

### ***Allowable Subject Matter***

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments with respect to claims 23, 24, 28, 29, and 34 have been fully considered but they are not persuasive. Applicant argues that when the upper housing 14 is removed, the control module cannot be removed. However, this feature is not required in the claims (and does not appear to be the case for applicant's upper housing 150 either). Applicant further argues that when the entire cover is removed, water can flow. This feature is also not required in these claims. Applicant further argues that "nut 54" cannot be construed as a main cover body. The Examiner disagrees; it is the Examiner's position that the term "main cover body" is broad enough that the locking element 54 which partially covers the valve body can be construed as the "main cover body". Applicant further argues that the cover is designed to allow adjustment of the sensor while maintaining the window. It is the Examiner's position that the upper housing 14 provides this feature.

Applicant's arguments with respect to the remaining rejected claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter T. deVore whose telephone number is (571) 272-4884. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pd (d)

Peter Stulka